Discussion of “Recent Evolutions in the Global Trade System” by Airaudo, Soyres, Gaillard and Santacreu

By Diego Comin[1]

Abstract

In this discussion, I explore the evidence, causes and consequences of the fragmentation of the economic system.

1 Introduction

This paper studies the impact of China's emergence as a technological leader on the number of distortionary interventions implemented by advanced economies. These policies have caused the fragmentation of the economic system posing new challenges to policymakers.

I organize my discussion in three parts. First, I review the evidence on increased competition and discuss its relevance for economic growth. Second, I discuss the drivers of the policies that have caused the economic fragmentation, and third, I discuss the positive and normative consequences of fragmentation on inflation.

2 Increased technological competition from China

The paper documents many facts regarding the interactions between China and the West. I would like to highlight four. 1. China has increased its share of global patents. 2. The sectoral overlap in exports and patents between China and the West has also increased. 3. China’s sectoral composition of exports has become more aligned with the West sectoral composition of imports. In particular, machinery and transport equipment is the sector where China’s exports and the West imports have grown most. 4. There has been a reduction in the alignment between EU’s exports and China’s imports. Specifically, China has reduced its imports of machinery and transport equipment which is a key sector for EU’s exports.

These findings are highly relevant, but the measures used to establish them have some limitations. First, patents are an imperfect proxy for innovation for several reasons. The number of patents does not reflect their significance or economic value, and many innovations go unpatented. Moreover, patenting is often shaped by

[1] Dartmouth College. I thank the Bank of Japan, IMES Center, for its hospitality while preparing this discussion, and comments by Robert Johnson.

the legal context or is intended to deter competition, rather than to indicate genuine innovation.[2] These issues weaken the usefulness of patents as an innovation metric. Importantly, these are well-documented concerns in the literature and apply broadly to a wide industry that uses patents to measure innovation, not just to this particular paper. Second, it would be very informative if the authors could access more disaggregated data to establish the overlap between China and the West, as 2-digit is too coarse.

2.1 Should we care?

Should the increased technological competition from China be a relevant economic concern for the West? There are reasons to believe that it should not be. First, innovation is not a zero-sum game. As made clear by Romer (1990), innovations are non-rival. Therefore, once an innovation invented in China it will add to the global stock of technologies eliminating the need to invent it again in the West. Second, knowledge spillovers are also difficult to encapsulate in a country. Therefore, when a technology is invented in China, the knowledge produced will also make more productive innovators in the West.[3]

A second reason for not being overly concerned about the emergence of China as an innovation powerhouse is that we should look beyond innovation. Innovation is not the main source of productivity growth. Most companies do not innovate. Data from the World Enterprise Survey shows that only 20% of firms in advanced economies engage in innovation. The adoption of new technologies and especially, the extension of the use of sophisticated technologies already available in establishments are much more important drivers of productivity growth (Cirera, Comin, and Cruz, 2025).

However, it may be argued that the real concern of policymakers is not productivity but jobs. In that case, raising tariffs may protect the domestic jobs in the sector where China is innovating, but it will reduce the number of jobs in the sectors that might use the technologies invented in China. It is unclear what is the net effect on jobs of these two forces. Additionally, the erection of barriers to Chinese innovation may have other unintended consequences that raise the cost of protecting domestic industries. For example, protecting the European electric vehicle (EV) industry comes at the cost of slowing down the energy transition and accelerating the pace of climate change, which the EU has designated as a key priority.

[2] Comin, Lashkari and Mestieri (2025) show that the knowledge content of patents has decreased over time.

[3] Even if there was a concern about the European innovation system falling behind, it is unclear that raising tariffs to Chinese products is the most effective way to foster innovation and move up in the value chain. See Comin (2014, 2016).

3 Increased number of distortive policies

The paper offers an impressive account of the number and type of distortive policies. The following is a subjective summary of the key facts. 1. There has been a very significant increase in distortive policy interventions. 2. These are both at the EU and national levels and they are directed to both domestic and foreign actors. 3. The distortive policies are of heterogenous nature. Some are clearly motivated by geopolitical factors (e.g., sanctions) but others try to protect and enhance domestic industries. As shown in section 7.1, these barriers have bite, and the tariff equivalent associated with border effects on bilateral flows (both within the EU and between EU and non-EU countries) have typically increased between 2015 and 2020

As for R&D and trade, it would be helpful to have the policies more thinly disaggregated by sector to better assess its drivers, which are likely to be multiple. Unfortunately, the World has changed a lot in the last five months since Donald Trump took office and the analysis of barriers conducted in the paper feels a bit like an exercise in modern history. Fortunately, many of the issues and factors have lingered.

3.1 What drives distortionary policies?

In my view, this is the main question posed by this paper. The paper claims that the two main forces driving the emergence of distortionary policies are geopolitical factors and the technological competition from China.

In support of this hypothesis, the paper shows that bilateral trade flows decrease more between countries that belong to different geopolitical blocks after 2022 than for countries that belong to the same block or that are not aligned. This effect, however, is small given the evolution of trade flows from 2010 onwards (see Chart 4). Therefore, geopolitical factors seem to play a minor role in the increase in distortionary policies.

To assess the role played by emergence of China on industrial policy, I explore potential mechanisms by which it may have influenced policymaking. I differentiate between welfare-enhancing industrial policy and industrial policy driven by interest groups. Industrial policy could be welfare enhancing if there are social benefits from protecting European industries that are threaten by the ascend of China. As argued above, knowledge spillovers are largely global, so there is no need to protect domestic innovation to enhance the accumulation of domestic knowledge. Similarly, equity markets are also global, so European investors could buy equity of Chinese companies if their expected returns are larger than European counterparts.

A more relevant channel by which Chinese competition may affect social welfare is the potential reduction in jobs for the middle-class due to the increase in Chinese exports. This China shock (Autor et al. 2013) could have had some effect on domestic employment. However, it is far from being the dominant driver of the reduction in manufacturing or middle-skill jobs observed in advanced economies.

There are three forces, unrelated to trade and Chinese competition, that are probably more important drivers of labor market polarization:

- Automation (Acemoglu and Autor, 2011)
- Income: As economies become richer, the share in expenditure of services increases. It turns out that, high-income elastic sectors are also intensive in high- and low skilled. This leads to the polarization of labor markets (Comin, Danieli, and Mestieri, 2021).
- Additionally, the shift in demand towards income elastic sectors will affect the firm size distribution across sectors. It turns out that production in income-elastic sectors displays a particular form of non-homotheticity by which increases in size induces firms to become more intensive in high-skilled workers (Comin, Dey and Mestieri, 2025). This connection between scale and skill is as important as skill-biased technical change for the evolution of skill-intensity in the US.

Where does this leave us? Well, it may be the case that politicians have grossly overestimated the impact of China's emergence on jobs and in their intention of maximizing social welfare they have erected a myriad of distortionary policies in the EU and the US.

This is possible, but a amore plausible rationale for the emergence of barriers is that European and American political are responding to private interests that see how their rents are compromised by the emergence of China.

4 Consequences of economic fragmentation

How does the fragmentation of the economic system affect inflation and monetary policy? The paper draws makes two points. The first is that the concentration of supply-chain constraints in countries from a different geopolitical block may be a risk for the disruption of supply chains. The authors make a parallel to the Covid period and argue that binding supply chain constraints was a critical driver of the surge in inflation. This is partly correct, as in 2020 constraints where binding due to exogenous reductions in capacity. However, starting in 2021 until 2024, the reason why constraints were binding was because demand was too large, in part due to expansionary monetary policy (Comin, Jones and Johnson, 2023).

The second point made by the authors is that the internal fragmentation within the euro-area will reduce the synchrony between the domestic economies making it more challenging to conduct monetary policy for the ECB.

I think that the positive and normative consequences of fragmentation for inflation dynamics go beyond these two points.

4.1 Positive consequences of fragmentation

How will fragmentation affect inflation? As shown by Comin and Johnson (2020), it depends on how fragmentation unravels. A one-time unanticipated increase in tariffs is inflationary because it raises the real marginal costs of production shifting vertically the Phillips curve. However, as shown by this article, fragmentation processes are not sudden. On the contrary, they are gradual and therefore, to a large extent, anticipated. Formally, we could model the home share of foreign intermediate goods, which is increasing in the degree of fragmentation as follows:

$$\lambda_{Ht}^{M} = \rho_{M}\lambda_{Ht-1}^{M} + \xi_{t}^{0} + \xi_{t-1}^{1}$$

where ξ_t^0 reflects unanticipated shocks to fragmentation, but ξ_{t-1}^1 reflects a disturbance to the home share of domestic intermediates that is known at t-1 but does not affect directly λ_{Ht}^M until time t. Agents can therefore anticipate it.

Comin and Johnson (2020) show that unlike unanticipated shocks (i.e., ξ_t^0), shocks to ξ_{t-1}^1 that will eventually increase fragmentation reduce inflation upon arrival. The intuition for this effect is that, news about future reductions in globalization do not affect tariffs today, but lower the real rate as agents anticipate that they will be poorer once tariffs come into place. As a result, they reduce contemporaneously the IS curve, reducing inflation. Comin and Johnson (2020) show that this effect dominates not just upon impact but on the long-run level of cumulative inflation if the globalization process is sufficiently persistent (i.e., $\rho_M \to 1$).

Comin and Johnson (2020) take advantage of the signing of free trade agreements (FTA) to identify anticipated shocks to globalization (i.e. the opposite of fragmentation) and show that those shocks lead increases in inflation starting four years before the agreements are effective, and even after the agreements are effective, cumulative inflation (plotted in the vertical axis) continues to increase. See Chart 1).

These findings help us understand the current inflation environment after Trumps's liberation day. Even though some tariffs have been implemented quite abruptly (e.g., steel and aluminum and cars), much uncertainty remains about the magnitude and horizon of most of the announced tariffs. This uncertainty makes the tariff shock resemble an anticipated trade reduction which in the Comin and Johnson environment will have a deflationary effect. This helps explain why, in contrast with the Fed's expectations, inflation has been decreasing since tariffs were announced, and economic activity has also decreased in part due to the reduction of consumption.

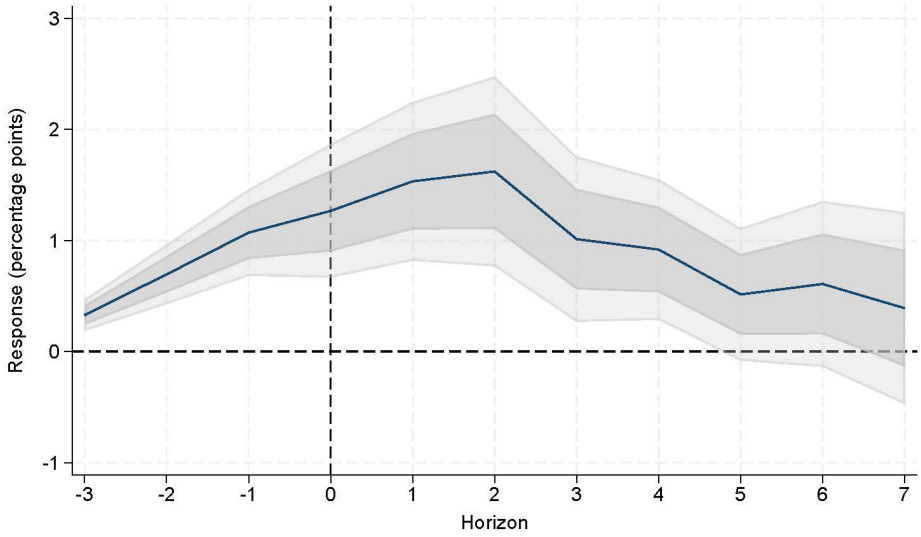
4.2 Normative consequences of fragmentation

In contrast to simpler NK models, in the Comin and Johnson environment, the social welfare function cannot be expressed just in terms of the output gap and inflation. This means that, in general the optimal policy rule will be a function of the current level of fragmentation as well as the anticipated future shocks to fragmentation.

Because of the independent effect of anticipated changes in trade, it is a bad idea to follow a see and wait strategy where the monetary authority does not lower rates until the economy shows signs of weakness.

Chart 1

Response of inflation to an anticipated entry into a Free Trade Agreement (at t=0)



Sources: Comin and Johnson (2020)

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